

IN THE CLAIMS:

All claims are included for the convenience of the Examiner.

1. (Currently Amended) A method, comprising:

when a first server is active in a peer-to-peer network having multiple peers,
from a first peer querying the first server for information about a second
peer in the peer-to-peer network, wherein the first server is configured to
include information about all of the multiple peers in the peer-to-peer
network ; and

when the first server is not able to satisfy the query, querying one or more
neighbor peers for information about the second peer[, wherein the first
server is not a neighbor peer].

2. (Previously Presented) The method of claim 1, wherein the first server
includes a network peer directory containing the information about all of the
multiple peers in the peer-to-peer network.

3. (Previously Presented) The method of claim 2, wherein a peer in the peer-to-
peer network includes a neighbor peer directory containing information about
one or more neighbor peers.

4. (Previously Presented) The method of claim 3, further comprising:
determining if the first peer already has information about the second peer prior
to querying the first server; and
retrieving the information about the second peer when the information about the

second peer is located in the first peer.

5. (Previously Presented) The method of claim 4, wherein querying the one or more neighbor peers comprises:
querying a neighbor peer included in the neighbor peer directory of the first peer
to locate the information about the second peer; and
when the information about the second peer is located in the neighbor
peer, retrieving the information about the second peer from the
neighbor peer.

6. (Previously Presented) The method of claim 1, wherein when the first server is not active in the peer-to-peer network, at least one of the multiple peers in the peer-to-peer network becomes a second server.

7. (Previously Presented) The method of claim 6, wherein the at least one of the multiple peers in the peer-to-peer network becomes the second server by
broadcasting a message to other peers in the peer-to-peer network.

8. (Previously Presented) The method of claim 7, wherein the at least one of the multiple peers in the peer-to-peer network becomes the second server by
receiving positive acknowledgement to the broadcasted message from the other
peers in the peer-to-peer network.

9. (Previously Presented) The method of claim 6, wherein the at least one of the multiple peers in the peer-to-peer network becomes the second server if that peer has sufficient capability rating.

10. (Previously Presented) The method of claim 9, wherein the capability rating of a peer includes storage and processing capability.

11. (Previously Presented) A system, comprising:
a network interface to connect to a peer-to-peer network;
a processor coupled with the network interface;
a memory coupled with the processor and the network interface, the memory including a neighbor peer directory having information about zero or more neighbor peers in the peer-to-peer network,
wherein when searching for a desired peer, the memory is first searched to locate information about the desired peer,
wherein when the information about the desired peer is not included in the memory, a first query is sent to a server system connected to the peer-to-peer network to search for the information about the desired peer, the server system having information about all peers in the peer-to-peer network, and
wherein when the server system is not able to satisfy the first query a second query is sent to neighbor peers.

12. (Previously Presented) The system of claim 11, wherein the first query is sent to the server system when the server system is active.

13-14. (Previously Cancelled)

15. (Previously Presented) The system of claim 12, wherein when the server system is not active, one or more peers in the peer-to-peer network becomes a replacement server system.

16. (Previously Presented) A computer readable medium containing executable instructions which, when executed in a processing system, causes the processing system to perform a method comprising:

when a server system is active in a peer-to-peer network, querying the server system for information about a desired peer in the peer-to-peer network, wherein the server system includes information about all of the peers in the peer-to-peer network; and
when the server system is not able to provide the information about the desired peer, querying neighbor peers for the information about the desired peer.

17. (Previously Cancelled)

18. (Previously Presented) The computer readable medium of claim 16, wherein a peer in the peer-to-peer network includes information about neighbor peers.

19. (Previously Presented) The computer readable medium of claim 18, further comprising:

retrieving the information about the desired peer from a local memory

instead of querying the server system when the information about the desired peer is located in the local memory.

20. (Previously Presented) The computer readable medium of claim 19, wherein querying the neighbor peers comprises:

querying one or more of the neighbor peers to locate the information about the desired peer; and

when the information about the desired peer is located in a neighbor peer,

retrieving the information about the desired peer from the neighbor peer.

21. (Previously Presented) The computer readable medium of claim 16, wherein when the server system becomes inactive in the peer-to-peer network, at least one of the peers in the peer-to-peer network becomes a replacement server system.

22-28. (Previously Cancelled)

29. (Previously Presented) A peer-to-peer network, comprising:

a super peer configured to include information about peers in the peer-to-peer network, wherein each of the peers includes information

about the super peer, wherein one or more of the peers include information about corresponding neighbor peers, wherein when a first peer is to search for a second peer in the peer-to-peer network, the first peer is to search in a sequence including memory of the first peer, the super peer, and neighbor peers of the first peer until either information about the second peer is located or the second peer is not in the peer-to-peer network.

30. (Previously Presented) The network of claim 29, wherein the super peer is capable of delegating super peer functions to one or more peers in the peer-to-peer network.

31. (Previously Presented) The network of claim 30, wherein when the super peer becomes inactive, each of the peers in the peer-to-peer network is to update own information about status of the super peer.

32. (Previously Presented) The network of claim 31, wherein when the super peer becomes inactive, one or more of the peers in the peer-to-peer network becomes a replacement super peer.

33. (Previously Presented) The network of claim 32, wherein the replacement super peer is have sufficient storing and processing capability to perform as the super peer.

34. (Previously Presented) The network of claim 31, wherein a peer is to update the super peer of changes to information about neighbor peer.

35. (Previously Presented) The network of claim 34, wherein a peer is to update the super peer of changes to information about network identification.

36. (Previously Presented) The network of claim 31, wherein when the first peer is to search for the second peer using the neighbor peers of the first peer, hop count information is used to control search propagation.

37. (Previously Presented) The network of claim 31, wherein when the first peer is to search for the second peer using the neighbor peers of the first peer, time stamp information is used to control search propagation.